

## PATENT COOPERATION TREATY

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

30 NOV 2004

Applicant's or agent's file reference ./.	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/DK 03/00356	International filing date (day/month/year) 27.05.2003	Priority date (day/month/year) 30.05.2002
International Patent Classification (IPC) or both national classification and IPC F01N3/28		
Applicant RECCAT ApS et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 8 sheets, including this cover sheet.  <input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  These annexes consist of a total of 10 sheets.
3. This report contains indications relating to the following items:  I <input checked="" type="checkbox"/> Basis of the opinion II <input type="checkbox"/> Priority III <input checked="" type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand  22.12.2003	Date of completion of this report  02.07.2004
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Mallo Lopez, M  Telephone No. +49 89 2399-2958  

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/DK 03/00356

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-30 as originally filed

**Claims, Numbers**

1-50 filed with telefax on 11.05.2004

**Drawings, Sheets**

1/16-16/16 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 2-4, 6-43

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 2-4, 6-43 are so unclear that no meaningful opinion could be formed (*specify*):

**see separate sheet**

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos.

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the Standard.

☐ the computer readable form has not been furnished or does not comply with the Standard.

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	45-50
	No: Claims	1, 5, 44
Inventive step (IS)	Yes: Claims	
	No: Claims	45-50
Industrial applicability (IA)	Yes: Claims	1, 5, 44-50
	No: Claims	

2. Citations and explanations

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see separate sheet

**ITEM III**

1. The dependent claims 2-4 and 6-43 as a whole are not clear.

Some claims define features already defined in the corresponding independent claims, see e.g. claims 2, 10, 33 and 34, which makes the scope of protection afforded by the claims unclear. Furthermore, claim 10 contains the possibility of having only one pipe instead of the plurality of parallel pipes defined in claim 1 (contradiction with the independent claim).

Claims 7, 8, 26, 27, 33-37, 40 and 43 refer to "said one or more inlet and/or outlet passage sections", "said carrier means", "the fuel tank" and/or "the fuel supplying means", while said elements have not been previously defined in the claims they refer to.

There is completely unclear from the dependent claims which should be the special technical features which represent a contribution over the prior art, since the features of the method dependent claims are quite different from the features of the device dependent claims.

All these unclarities make impossible to give an opinion about the merits of the dependent claims.

**ITEM V**

1. Reference is made to the following documents:

D4: US 5 303 547 A

D5: PATENT ABSTRACTS OF JAPAN vol. 013, no. 241& JP 01 051126 A.

Both D4 (see column 6, line 51 to column 8, line 5 and figures 7-9) and D5 (see abstract and figure 1) disclose (reference signs of D5 identified by "\*\*") a method for treatment of a fluid quantity including chemical reacting means such as combustible materials above a certain minimum quantity in a catalytic device (the device according to figure 7 of D4 and the device according to figure 1 of D5 are both without doubt catalytic devices, since they include at least one catalytic

section), said method comprising the steps of:

entering said fluid quantity into the catalytic device through an inlet (134),

directing said fluid quantity through at least three mutually connected passage sections (124, 128, 128', 124'; 2\*, 3\*, 2\*) of said catalytic device in which said at least three passage sections include a main reaction passage section (124; 2\*) heat exchanging in counterflow with a main heat transfer passage section (124'; 2\*) (since the function and/or special structure of the main reaction and main heat transfer passage sections are not defined in the independent claims, these sections may be any one of the sections of the devices of D4 or D5), wherein at least one section (124; 3, according to the wording of claim 1 this section is not necessarily one of the heat exchanging sections) includes catalytic material of one or more kinds in which the catalytic material reacts with and/or enhances the reaction of said combustible materials, and wherein at least one of said at least three passage sections (124; 2\*), such as said main transfer section (124; 2\*), comprises a plurality of substantially parallel pipes,

heating or cooling said fluid quantity in said at least three passage section by said internal heat exchange in said catalytic device between said sections (124, 124'; 2\*, 2\*) (this wording does not mean necessarily that each section heat exchanges with at least one of the other sections), and  
emitting the treated fluid quantity from the catalytic device through an outlet (140).

D4 and D5 also disclose a catalytic device for treatment of a fluid quantity including chemical reacting means such a combustible materials above a certain minimum quantity, said device comprising a container (130; 10\*) including at least one inlet (134) and outlet (140) for said fluid quantity, said container further comprising at least three passage sections (124, 128, 124'; 2\*, 3\*, 2\*) being mutually connected, where at least one section (124; 3) of said passage sections includes catalytic material of one or more kinds, where the positioning of said passage sections forms at least one internal heat exchanger (122; 2\*) with mutual heat exchange between the sections, where a main reaction passage section (124; 2\*) heat exchanges in counterflow with a main heat transfer section (124'; 2\*) of said at least three passage sections, and where at least one of said at least three passage sections, such as said main heat transfer section (124; 2\*),

comprises a plurality of substantially parallel pipes.

The use of the above described method for cleaning exhaust gas from internal combustion engines is also known from D4.

Consequently, the present application does not satisfy the criterion set forth in Article 33(2) PCT because the subject-matter of independent claims 1, 5 and 44 is not new in respect of prior art as defined in the regulations (Rule 64(1)-(3) PCT).

2. The use of the method and the device according to any of the claims 45-50 is merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to solve the problem posed.

Consequently the present application does not satisfy the criterion set forth in Article 33(3) PCT because the subject-matter of independent claims 45-50 does not involve an inventive step (Rule 65(1),(2) PCT).

3. Additional remarks.

- 3.1 The embodiment according to figure 2 and the corresponding description on page 14, lines 6-31 (only two passages) does not fall within the scope of the claimed invention (at least three passages). However, this is not clear from the present description, thus leading to doubt concerning the matter for which protection is sought (Article 6 PCT).

- 3.2 Independent claim 1 is not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art being placed in the preamble (Rule 6.3(b)(i) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).

- 3.3 Reference sign "19" is missing in the drawings (see claims 23, 25, 28 and page 29 of the description).

- 3.4 The description is not in conformity with the claims as required by Rule 5.1(a)(iii)

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EXAMINATION REPORT - SEPARATE SHEET**

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